

AZ850

MICROMINIATURE POLARIZED RELAY

FEATURES

- Microminiature size: Height: .197 inches (5 mm); Length: .551 inches (14 mm); Width: .354 inches (9 mm)
- High sensitivity, 79 mW pickup
- Monostable and bistable (latching) single coil and two coil versions available
- Meets FCC Part 68.302 1500 V lightning surge
- DIP terminal layout, fits 10 pin IC socket
- Epoxy sealed for automatic wave soldering and cleaning
- UL, CUR file E43203



CONTACTS

| | |
|--------------------------|---|
| Arrangement | DPDT (2 Form C) Bifurcated crossbar contacts |
| Ratings | Resistive load: Max. switched power: 30 W or 62.5 VA Max. switched current: 1 A Max. switched voltage: 220 VDC or 250 VAC Max. carry current: 2 A |
| Rated Load UL | 1 A at 30 VDC resistive 0.5 A at 125 VAC resistive |
| Material | Silver palladium; gold clad |
| Resistance | < 50 milliohms initially |

COIL (Polarized)

| | |
|--|--|
| Power At Pickup Voltage (typical) | Single side stable: 79–169 mW Bistable (latching) single coil: 56–84 mW Bistable (latching) two coil: 113–169 mW |
| Max. Continuous Dissipation | 875 mW at 20°C (68°F) ambient |
| Temperature Rise | 18°C (32°F) at nominal coil voltage |
| Temperature | Max. 105°C (221°F) |

NOTES

1. All values at 20°C (68°F).
2. Relay has fixed coil polarity.
3. Relay may pull in with less than "Must Operate" value.
4. Relay adjustment may be affected if undue pressure is exerted on relay case.
5. For complete isolation between the relay's magnetic fields, it is recommended that a .197" (5.0 mm) space be provided between adjacent relays.
6. Specifications subject to change without notice.

GENERAL DATA

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|--|---|
| Life Expectancy Mechanical Electrical | Minimum operations 1 x 10 ⁸ 2 x 10 ⁵ at 1 A, 30 VDC, resistive 1 x 10 ⁵ at 0.5 A, 125VAC, resistive |
| Operate Time (typical) | 2 ms at nominal coil voltage |
| Release Time (typical) | 1 ms at nominal coil voltage (with no coil suppression) |
| Set Time (bistable versions) | 2 ms at nominal coil voltage (typical) |
| Reset Time (bistable versions) | 2 ms at nominal coil voltage (typical) |
| Dropout | Greater than 10% of nominal coil voltage |
| Capacitance | Contact to contact: 0.4 pF Contact set to contact set: 0.2 pF Contact to coil: 0.9 pF |
| Dielectric Strength (at sea level) | 1000 Vrms between contact sets 1000 Vrms across contacts 1000 Vrms contact to coil Meets FCC part 68.302 1500 V lightning surge |
| Insulation Resistance | 1000 megohms min. at 25°C, 500 VDC, 50% RH |
| Ambient Temperature Operating Storage | At nominal coil voltage -40°C (-40°F) to 70°C (158°F) -40°C (-40°F) to 105°C (221°F) |
| Vibration | .130" DA at 10–55 Hz |
| Shock | 50 g |
| Enclosure | LCP |
| Terminals | Tinned copper alloy, P.C. |
| Max. Solder Temp. | 250°C (482°F) |
| Max. Solder Time | 5 seconds |
| Max. Solvent Temp. | 80°C (176°F) |
| Max. Immersion Time | 30 seconds |
| Weight | 1.5 grams |



AMERICAN ZETTLER, INC.

AZ850

RELAY ORDERING DATA

| SINGLE SIDE STABLE | | | | | ORDER NUMBER |
|---------------------|------------------|--------------------|----------------------------|-----------|--------------|
| COIL SPECIFICATIONS | | | | | |
| Nominal Coil VDC | Must Operate VDC | Max Continuous VDC | Coil Resistance $\pm 10\%$ | | |
| 3 | 2.3 | 7.5 | 64.3 | AZ850-3 | |
| 4.5 | 3.4 | 11.25 | 145.2 | AZ850-4.5 | |
| 5 | 3.8 | 12.5 | 178 | AZ850-5 | |
| 6 | 4.5 | 15.0 | 257 | AZ850-6 | |
| 9 | 6.8 | 22.5 | 579 | AZ850-9 | |
| 12 | 9.0 | 30.0 | 1,028 | AZ850-12 | |
| 24 | 18.0 | 48.0 | 2,880 | AZ850-24 | |
| 48 | 36.0 | 80.0 | 7,680 | AZ850-48* | |

| BISTABLE (LATCHING) SINGLE COIL | | | | | ORDER NUMBER |
|---------------------------------|------------------|--------------------|----------------------------|-------------|--------------|
| COIL SPECIFICATIONS | | | | | |
| Nominal Coil VDC | Must Operate VDC | Max Continuous VDC | Coil Resistance $\pm 10\%$ | | |
| 3 | 2.3 | 8.7 | 90 | AZ850P1-3 | |
| 4.5 | 3.4 | 13.0 | 203 | AZ850P1-4.5 | |
| 5 | 3.8 | 14.5 | 250 | AZ850P1-5 | |
| 6 | 4.5 | 17.4 | 360 | AZ850P1-6 | |
| 9 | 6.8 | 26.1 | 810 | AZ850P1-9 | |
| 12 | 9.0 | 34.8 | 1440 | AZ850P1-12 | |
| 24 | 18.0 | 57.6 | 3840 | AZ850P1-24 | |

| BISTABLE (LATCHING) TWO COIL | | | | | ORDER NUMBER |
|------------------------------|------------------|--------------------|-----------------|---------|--------------|
| COIL SPECIFICATIONS | | | | | |
| Nominal Coil VDC | Must Operate VDC | Max Continuous VDC | Coil Resistance | | |
| | | | Coil I | Coil II | |
| 3 | 2.3 | 6.0 | 45 | 45 | AZ850P2-3 |
| 4.5 | 3.4 | 13.0 | 102 | 102 | AZ850P2-4.5 |
| 5 | 3.8 | 10.0 | 125 | 125 | AZ850P2-5 |
| 6 | 4.5 | 12.0 | 180 | 180 | AZ850P2-6 |
| 9 | 6.8 | 18.0 | 405 | 405 | AZ850P2-9 |
| 12 | 9.0 | 24 | 720 | 720 | AZ850P2-12 |
| 24 | 18.0 | 40 | 1,920 | 1,920 | AZ850P2-24 |

*Not UL Approved

MECHANICAL DATA

Dimensions: .551 [14.0], .197 [5.0], .010 [0.25], 4x.100 [2.54], 10x.020 [0.51], .354 [9.00], 10x.138 [3.5], .300 [7.63], 10x.010 [0.25]

PC BOARD LAYOUT

Dimensions: .027 [0.69], 10 x .032 [0.81], .300 [7.62], .075 [1.90], 4 x .100 [2.54]

VIEWED TOWARDS TERMINALS

WIRING DIAGRAMS

SINGLE SIDE STABLE

DEENERGIZED OR RESET CONDITION
Watch for polarity

BISTABLE (LATCHING) TWO COIL

RESET CONDITION
Watch for polarity

Diagrams show the "reset" position before energized with polarity as shown.

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± 0.010 "